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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/486,723	05/18/2000	MICHAEL LAMLA	JEK/LAMLA	2431

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BACON & THOMAS  
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4TH FLOOR  
ALEXANDRIA, VA 22314-1176

EXAMINER
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PICH, PONNOREAY

ART UNIT	PAPER NUMBER
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2135

DATE MAILED: 11/17/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b> 09/486,723	<b>Applicant(s)</b> LAMLA ET AL.	
	<b>Examiner</b> Ponnoreay Pich	<b>Art Unit</b> 2135	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 07 September 2006.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 1-14 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-14 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)                                | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                       | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

**DETAILED ACTION**

Claims 1-14 are pending. Applicant's amendments and arguments have been fully noted. Any rejections or objections not repeated below for record are withdrawn due to applicant's amendments and/or arguments.

***Response to Arguments***

Applicant argues the 102(e) rejections based on Saliba stating that Saliba fails to disclose a data carrier having two logically separate channels provided between the data carrier and an external device. The examiner respectfully disagrees.

First, note that cited Figure 1 shows two devices which could be viewed as the data carrier having two logically separate channels, i.e. item 50 and item 12. Item 50 is a mobile field unit, which could be a laptop or pda. Item 50 has a cellular channel 54 and at least one IR channel 52. Item 12 is a computer having several IR channels 24. As explained in the prior office action, the examiner noted that though applicant explained the phrase "logical separation" between two channels with respect to a variant of the invention (see paragraph spanning page 5-6 of specification), the phrase was never explicitly defined. As such, though the definition given with respect to the variant of applicant's invention could apply, the examiner respectfully submits that two separate physical channels could also be interpreted as having a logical separation because the logic used to control one physical channel is different than the logic used to control another physical channel. The definition given with respect to the variant aspect appeared to only apply to the variant aspect discussed and did not appear to exclude any other definition that may apply.

One can view item 50 as the data carrier and it has channel 54. Because channel 54 is physically separate from channel 52, it is also logically separate from channel 52. Further, note in Figure 1 that item 50 can have two separate IR channels 52, thus the two separate IR channels could also be viewed as two logically separate channels since one channel is achieved via the logic in memory card 53 while another is via the logic built into item 50. That Figure 1 shows item 54 communicating with two separate external devices does not prohibit it from communicating with just one external device. Further, the languages of the claims do not state that communication via the channels of the data carrier is with only a single unit external device.

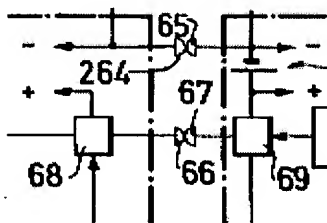
If one were to view computer 12 as the data carrier, each of the IR channels 24 are separate physical channels. As explained above, physically separate channels are also logically separate channels since the logic used to control one channel is different than the logic used to control another channel.

Applicant also argues the 103(a) rejection of the claims based on Saliba in view of Ehrat. Applicant states that Saliba fails to disclose or suggest two bidirectional channels are provided between the data carrier and a (single) external device. This argument has already been traversed above. Applicant also states that Ehrat fails to disclose two bidirectional data channels between a first and second device. Instead, applicant states that Ehrat discloses two mono-directional channels which together make up only a single bidirectional channel. The examiner respectfully disagrees.

In addition to the embodiment shown in Figure 4, the examiner also pointed to the embodiment shown in Figure 2, which is discussed in column 4, lines 51-67 to

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evidence the two bidirectional channels. Note that the main difference between the two embodiments is that in Figure 4, radio means are used to transmit signals while in Figure 2, which is a simplification of Figure 1, signals are transmitted via channels formed from physical connections/conductors between the two devices seen in Figure 2. Cited column 4, lines 51-54 states that the different connecting lines may be one and the same physical conductor. For example, in Figure 2, the lines/channels formed by connectors 264, 65, 66, and 67 may be one physical conductor. Data are exchanged via these conductors (col 4, lines 63-66). Further, consider the following portion copied from Figure 2:



One can see that the data line/channel formed from connectors 264 and 65 have arrows on both ends indicating a bidirectional data channel. The data line/channel formed from connectors 66 and 67 also show a bidirectional data line/channel since the switching circuits (items 68 and 69) the conductors are connected to show arrows in two different directions. As these two lines/channels can be one physical line (col 4, lines 51-54), the channel formed from conductor 264 and 65 is a bidirectional data channel logically separate from the bidirectional channel formed from items 68, 66, 67, and 69. Since using physical connectors for communication between the two devices seen in Figure 2 requires two bidirectional communication channels, it would not be unreasonable to assume that even if one were to replace the physical connectors seen

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in Figure 2 with wireless means as seen in Figure 4, the wireless channels would still be implemented as two separate bidirectional channels.

### ***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claim 1, 8-10, 12, and 14 are rejected under 35 U.S.C. 102(e) as being anticipated by Saliba (US 5,894,425).

#### **Claim 1:**

Saliba discloses:

1. Providing a first bidirectional channel for transmitting signals having signal patterns between the data carrier and the external device (Fig 1 and col 5, lines 27-35, 44-45).
2. Providing a second bidirectional transmission channel logically separated from the first bidirectional transmission channel, the separation of the first and second bidirectional transmission channels being so designed that data transmission via

one bidirectional transmission channel does not interfere with data transmission via the other bidirectional transmission channel and the second bidirectional transmission channel is activable during the total time period between activation and deactivation of the data carrier (Fig 1 and col 5, lines 27-35, 44-45).

3. Having the data carrier generate a signal required for authenticity testing (col 6, lines 17-64).
4. Transmitting the signal for authenticity testing from the data carrier to the external device or a signal required for generating the signal for authenticity testing from the external device to the data carrier at least partly via the second bidirectional transmission channel (col 6, lines 17-64).
5. Having the external device receive the signal for authenticity testing, and deciding on the basis of the received signal whether the data carrier is authentic (col 6, lines 17-64).

The examiner is applying two interpretations to what it means for a channel to be logically separated. The examiner note that logical separation of a channel as applicant's specification discloses is achieved via modulation of one physical channel. However, one skilled should appreciate that if there were two separate physical channels then the logic utilized to control data transmission in one channel is different and separate from the logic used to control data transmission in the other channel. Since applicant does not recite in claim 1 how logical separation of the channels is achieved, more than one interpretation of logical separation applies to claim 1.

In Saliba's invention, Fig 1 shows the PDA 50 having at least two separate transmission channels. One of the channels is a radio/cellular communication channel and two are IR channels. One skilled should appreciate that the logic used to control IR transmissions is different than the logic used to control radio/cellular transmissions, thus the two channels utilized by PDA 50 disclosed by Saliba are both physically and logically separated from each other. Further, the PDA is shown having a built in IR device and IR provided via an external card 53. One skilled should appreciate that the logic which controls the IR transmission of the external device is different than that logic which controls the built-in IR device of the PDA.

The examiner has also included a rejection of claim 1 below wherein the examiner interprets logical separation as achieved by modulating one physical channel so that it can function as two channels.

**Claim 8:**

Saliba discloses:

1. Providing a first bidirectional transmission channel for transmitting signals between the data carrier and the external device (Fig 1 and col 5, lines 27-35, 44-45).
2. Providing a second bidirectional transmission channel physically separated from the first bidirectional transmission channel and comprising at least one line or contactless transmission path not provided according to the ISO standard, the second bidirectional channel being activable during the total time period between



activation and deactivation of the data carrier (Fig 1 and col 5, lines 27-35, 44-45).

3. Having the data carrier generate a signal required for authenticity testing (col 6, lines 17-64).
4. Transmitting the signal for authenticity testing from the data carrier to the external device or a signal required for generating said signal for authenticity testing from the external device to the data carrier at least partly via the second bidirectional transmission channel (col 6, lines 17-64).
5. Having the external device receive the signal for authenticity testing, and deciding on the basis of the received signal whether the data carrier is authentic (col 6, lines 17-64).

**Claim 9:**

Saliba further discloses the contactless transmission path is realized by transmitting the data as electromagnetic, electrostatic, magnetic, acoustic or optical signals (Fig 1 and col 5, lines 27-35, 44-45).

**Claim 10:**

Saliba further discloses that a mixture of wavelengths is used for transmission via the contactless transmission path (col 6, lines 20-21). Use of synch patterns implies a mixture of wavelength used in transmission.

**Claim 12:**

Saliba discloses:

1. The data carrier has a first device for generating signals for data exchange between the data carrier and the external device, and the first device is adapted to be coupled to a first bidirectional channel (Fig 1, item 54).
2. The data carrier has a second device for generating signals required for authenticity testing of the data carrier, and the second devices is adapted to be coupled to a second bidirectional transmission channel and connected with the first device (Fig 2, item 52).
3. The first and second bidirectional transmission channels are separated logically or physically (Fig 1, items 54 and 52).
4. Data exchanged with the second device does not interfere with data exchanged with the first device, and the second device is ready for generating signals for authenticity testing of the data carrier during the total time period between activation and deactivation of the data carrier (col 5, lines 27-35, 44-45).

The first device exchanges data via radio/cellular waves while the second exchanges data via IR. One skilled should appreciate that IR does not interfere with radio/cellular waves.

**Claim 14:**

Saliba discloses:

1. A data carrier with a first device for generating signals for data exchange with the external device and a second device for generating and/or processing signals for authenticity testing (Fig 1, item 50).

2. An external device with a first device for generating signals for data exchange with the data carrier and a second device for generating and/or processing signals for authenticity testing (col 4, lines 49-56 and col 6, lines 17-64).
3. A first bidirectional transmission channel for transmitting signals between the first device of the data carrier and the first device of the external device (Fig 1, item 54 or item 52).
4. A second bidirectional transmission channel for transmitting signals between the second device of the data carrier and the second device of the external device (Fig 1, item 52, note that there are two separate items 52 in Figure 1), the first and second bidirectional transmission channels being separated logically or physically and the separation of the first and second bidirectional transmission channel does not interfere with data transmission via the other bidirectional transmission channel, and the second bidirectional transmission channel being activable during the total time period between activation and deactivation of the data carrier (col 5, lines 27-35, 44-45).

Note that there is another bidirectional transmission channel that uses radio/cellular waves. One skilled should appreciate that IR does not interfere with radio/cellular waves.

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-4, 6-7, 11, and 13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Saliba (US 5,894,425) in view of Ehrat (US 3,806,874).

**Claim 1:**

Saliba discloses:

1. Providing a first bidirectional channel for transmitting signals having signal patterns between the data carrier and the external device (Fig 1 and col 5, lines 27-35, 44-45).
2. Providing a second bidirectional transmission channel separated from the first bidirectional transmission channel, the separation of the first and second bidirectional transmission channels being so designed that data transmission via one bidirectional transmission channel does not interfere with data transmission via the other bidirectional transmission channel and the second bidirectional transmission channel is activable during the total time period between activation and deactivation of the data carrier (Fig 1 and col 5, lines 27-35, 44-45).
3. Having the data carrier generate a signal required for authenticity testing (col 6, lines 17-64).
4. Transmitting the signal for authenticity testing from the data carrier to the external device or a signal required for generating the signal for authenticity testing from

the external device to the data carrier at least partly via the second bidirectional transmission channel (col 6, lines 17-64).

5. Having the external device receive the signal for authenticity testing, and deciding on the basis of the received signal whether the data carrier is authentic (col 6, lines 17-64).

As noted above, the examiner is applying two interpretations to the what it means for two channels to be logically separated. Saliba does not disclose the second bidirectional transmission channel is logically separated from the first bidirectional transmission channel (in the sense that separation is achieved via modulation of a single transmission channel). However, Ehrat discloses one physical channel being modulated so that two separate bidirectional logical radio channels are achieved (col 4, lines 51-56 and col 6, lines 13-36). Note that in the cited passages, Ehrat discloses that transmission can occur simultaneously in both directions, thus transmission on one logical channel does not interfere with transmission on the other logical channel.

At the time applicant's invention was made, it would have been obvious to one skilled in the art in light of Ehrat's teachings to modify Saliba's invention according to the limitations recited in claim 1 by modulating either the radio/cellular channel or the IR channel into two logically separate bidirectional channels. One skilled would have been motivated to modulate the IR channel to achieve two logically separated bidirectional channels because it would allow the PDA to communicate with more than one storage devices located in computer 12 at the same time, thus information could be gathered

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more quickly from the storage devices and updates could be uploaded to the storage devices more quickly. Likewise, one skilled would have been motivated to modulate the radio/cellular channel into two logically separate bidirectional channels at the same time because then the PDA would be able to communicate with two separate host devices at the same time. This allows the PDA to obtain further information from host devices more quickly and relay information from the storage device for further analysis more quickly.

Note that from Ehrat's teachings one could further modify Saliba's invention such that instead of using an IR channel to communicate with the storage devices in computer 12, one could modify the drives such that they communicated with the PDA via a radio/cellular channels instead. One radio/cellular channel would still be used to communicate with a host computer while other radio/cellular channels could be used to communicate with the storage devices. One skilled would have been motivated to do so because using a radio/cellular channel would increase the range that the PDA can communicate with the drives since radio/cellular signals travel further distances than IR signals without being corrupted and aren't as easily blocked.

**Claim 2:**

Ehrat further discloses the second bidirectional transmission channel is provided by modulating the signal of the first bidirectional transmission channel (co 6, lines 13-36).

**Claim 3:**

Ehrat implicitly discloses the modulation does not impair an ISO compatibility of data exchange between the data carrier and the external device existing for the first bidirectional transmission channel (col 6, lines 33-35). Ehrat discloses that duplex transmission operates with two different transmission frequencies so that transmissions occur simultaneously in both directions. Thus, any ISO compatibility that may exist for the first bidirectional transmission channel would not be affected by the modulation to achieve the second channel.

**Claim 4:**

Saliba and Ehrat implicitly disclose modulation is performed in areas of the signal pattern which are not evaluated according to ISO 7816 (Saliba: col 6, lines 47-64). Note that ISO 7816 is an international standard related to electronic identification cards, especially smart cards. Since Saliba's invention does not use electronic identification cards, the modulation done in Saliba and Ehrat's combination invention is performed in areas not evaluated according to ISO 7816.

**Claim 6:**

Ehrat further discloses that modulation and demodulation of the signal are performed in the data carrier and in the external device with the aid of a mixing/demixing device in each case (col 6, lines 25-32). Modulators and demodulators are mixing and demixing devices.

**Claim 7:**

Saliba further discloses the first bidirectional transmission channel is a line for transmitting standard data or a line for transmitting a clock signal or a line for supply voltage (col 5, line 65-col 6, line 1).

**Claim 11:**

As per claim 11, the limitation recited is obvious to the combination invention of Saliba and Ehrat. One skilled should appreciate that if the data carrier and the external device cannot exchange data, then the external device cannot receive the authentication data to verify the data carrier is authentic, thus the decision on authenticity of the data carrier is contingent on whether data exchange is possible between the devices to which the first and second transmission channels are coupled to the data carrier.

**Claim 13:**

Saliba does not explicitly disclose the first device and the second device are each coupled to the bidirectional transmission channels via a mixing/demixing module. However, Ehrat discloses a transmission devices coupled to bidirectional transmission channels via a mixing/demixing module, i.e. multiplexer/demultiplexer (col 6, lines 13-32).

At the time applicant's invention was made, it would have been obvious to one skilled in the art to modify Saliba's invention according to the limitations recited in claim 13. One skilled would have been motivated to do so because data transmitted are usually multiplexed before transmission and demultiplexed upon receipt.



Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over Saliba (US 5,894,425) in view of Ehrat (US 3,806,874) in further view of official notice by the examiner.

**Claim 5:**

Saliba does not explicitly disclose the changes caused by modulation in the signal of the first bidirectional transmission channel are within range of variation of the signal level permitted by ISO 7816. However, official notice is taken that the ISO 7816 standard as well as smart cards used as id cards were well known in the art at the time applicant's invention was made. ISO 7816 is a standard related to electronic id cards, especially smart cards. Note that Ehrat's identification unit is adapted to be carried by authorized personnel (abstract, lines 1-4).

At the time applicant's invention was made, it would have been obvious to one skilled in the art in light of the ISO 7816 standard being well known to modify Saliba and Ehrat's combination invention such that the changes caused by modulation in the signal of the first bidirectional transmission channel are within range of variation of the signal level permitted by ISO 7816. One of ordinary skill would have been motivated to do so because it would allow use of smart card technology as the identification unit disclosed by Ehrat.

***Conclusion***

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure: "ISO 7816 – Wikipedia, the free encyclopedia" is cited because it gives an overview of what ISO 7816 entails.

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ponnoreay Pich whose telephone number is 571-272-7962. The examiner can normally be reached on 9:00am-4:30pm Mon-Fri.

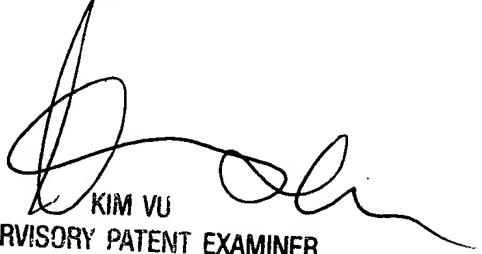
If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kim Vu can be reached on 571-272-3859. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

PP

Ponnoreay Pich  
Examiner  
Art Unit 2135



KIM VU  
SUPERVISORY PATENT EXAMINER  
TECHNOLOGY CENTER 2100